

Solve for x in the interval $[0, 360)$

$$\textcircled{1} \quad \sqrt{3} \sin^2 x - \sin x = 0$$

$$(\sin x)(\sqrt{3} \sin x - 1) = 0$$

$$\sin x = 0$$

$$\boxed{0, 180^\circ}$$

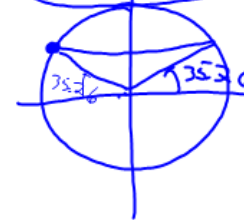
$$\sqrt{3} \sin x - 1 = 0$$

$$\sin x = \frac{1}{\sqrt{3}}$$

$$x = \sin^{-1}\left(\frac{1}{\sqrt{3}}\right)$$

$$\boxed{x \approx 35.26^\circ}$$

$$\boxed{x \approx 144.74^\circ}$$



$$\textcircled{2} \quad 2 \sin^2 x + 3 \sin x - 1 = 0$$

$$\sin x = \frac{-3 \pm \sqrt{3^2 - 4(2)(-1)}}{2(2)}$$

$$\sin x = \frac{-3 \pm \sqrt{17}}{4} \approx 0.28 \text{ or } -1.78$$

$$\sin x = 0.28$$

$$x = \sin^{-1}(0.28)$$

$$\boxed{x = 16.3^\circ, 163.7^\circ}$$

$$\sin x = -1.78$$

$$x = \sin^{-1}(-1.78)$$

$$x = \emptyset$$

[HW] 6.2

#27 - Kevin, Tylar

#31 - Laura

#37 - Shelby, Anna

#40 - Elizabeth

$$40) 2\cos^2\theta + 2\cos\theta - 1 = 0$$

$$x = \frac{-2 \pm \sqrt{2^2 - 4(2)(-1)}}{2(2)}$$

$$x = \frac{-2 \pm \sqrt{12}}{4}$$

$$x = \frac{-2 + \sqrt{12}}{4} \quad x = \frac{-2 - \sqrt{12}}{4}$$

$$\cos^{-1} \cos x = 36.6$$

$$\begin{array}{r} 360 \\ -68.53 \\ \hline 291.47 \end{array}$$

$$\begin{aligned} x &= 68.53 \\ x &= 291.47 \end{aligned}$$

$$\begin{aligned} \cos^{-1} \cos x &= -1.37 \\ x &= \text{error} \end{aligned}$$

$$27. \tan\theta - \cot\theta = 0$$

$$\tan\theta - \frac{1}{\tan\theta} = 0$$

$$\tan^2\theta - 1 = 0$$

+1 +1

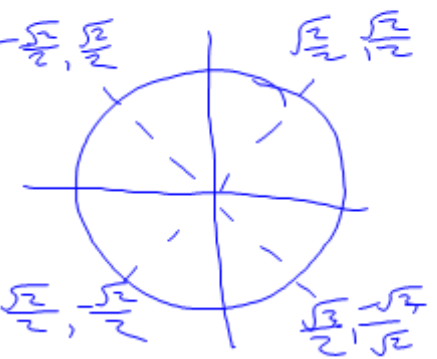
$$\tan^2\theta = 1$$

$$\sqrt{\tan^2\theta} = \sqrt{1} \quad -\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}$$

$$\tan\theta = 1$$

$$\theta = 45^\circ \quad 225^\circ$$

$$135^\circ \quad 315^\circ$$



6.1

30-32, 38, 39, 41, 42, 49, 50

6.2

23, 30, 34, 35, 38, 39, ~~47~~, 48

Choose 1 section
or do

10 problems that
are a mix